

REMARKS

Applicant would like to thank the examiner for the detailed office action mailed on November 16, 2008.

Claims 1-20 are pending. Claims 1-20 have been rejected by the examiner.

The drawings are objected to because "M bits" from the output of "ADC" in Figure 3 should be labeled "M-bits," claims 6 and 8-20 are objected to because of the following informalities: In claim 6, lines 1 and 2, the terms "thin pulses" and "relatively thicker pulse" should be "a thin pulse" and "a relatively thicker pulse", respectively, claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement, claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohan et al. (WO 02096052, hereinafter "Mohan") in view of Hartmann et al. (U.S. Publication No. 20030145036, hereinafter "Hartmann").

Objection to Drawings

The Office Action stated that "[t]he drawings are objected to because "M bits" from the output of "ADC" in Figure 3 should be labeled "M-bits,"" In response, "M bits" from the output of "ADC" in Figure 3 is amended to be labeled "M-bits."

The Office Action stated that "[i]n figures 4 to 6, the words "Programmable", "Downgoing", "MUX", "Conjugate", "DEMUX1", and "DAC" should be labeled within a line. In response, figures 4 to 6 are amended so that the words "Programmable", "Downgoing", "MUX", "Conjugate", "DEMUX1", and "DAC" are labeled within a line.

The Office Action stated that "[i]n Figure 5, "(monoshot" appears to be "generator" and "Conjugate pulse" should be "Conjugate pulse generator". In response, in Figure 5, "(monoshot" is amended to be "generator" and "Conjugate pulse" is amended to be "Conjugate pulse generator."

The Office Action stated that "[i]n Figure 6, "k-bit" should be labeled "k-bits" and "k" should be labeled "k-bits." In response, in Figure 6 "k-bit" is amended to label "k-bits" and "k" as "k-bits."

#### Objection to Claims

Claims 6 and 8-20 are objected to because of the following informalities:

The Office Action stated that "[i]n claim 6, lines 1 and 2, the terms "thin pulses" and "relatively thicker pulse" should be "a thin pulse" and "a relatively thicker pulse", respectively. In response, in claim 1, the terms "thin pulses" and "relatively thicker pulse" are amended to "a thin pulse" and "a relatively thicker pulse", respectively.

The Office Action stated that "[i]n claim 8, lines 4, 6, 13 and 14, the terms "an input", "pulse position", "into forward" and "a transmission channel" should be "input", "pulse positions", "into the forward" and "the transmission channel", respectively, wherein the dependent claims 9 and 10 depend on claim 8. In response, in claim 8, the terms "an input", "pulse position", "into forward" and "a transmission channel" are amended to be "input", "pulse positions", "into the forward" and "the transmission channel", respectively,

The Office Action stated that "[i]n claim 11, lines 10 and 13, the terms "through a" and "the encoding includes separating" should be "through the" and "the encoder separates", respectively. In response, in claim 11, the terms "through a" and "the encoding includes separating" are amended to be "through the" and "the encoder separates."

The Office Action stated that "[i]n claim 15, line 3, "a transmission channel" should be "the transmission channel". In

response, in claim 15, "a transmission channel" is amended to "the transmission channel."

The Office Action stated that "[i]n claim 17, lines 2 and 3, the terms "thin pulses" and "relatively thicker pulse" should be "thin pulses" and "relatively thicker pulse", respectively. In response, in claim 17, the terms "thin pulses" and "relatively thicker pulse" are amended "a thin pulse" and "a relatively thicker pulse", respectively.

The Office Action stated that "[i]n claim 20, line 2, "data splitter" should be "a data splitter". In response, in claim 20, the "data splitter" is amended to "a data splitter".

Rejection of claims 1-20 under 35 U.S.C. 112 first paragraph

Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement.

The Office Action states:

"However, the specification fails to explain which elements shown in Figure 3 correspond to the modulator, the encoder and the demodulator in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Paragraph 45 of the specification states that in FIG. 3:

"a modulator splits M bits/samples digital data into 'N' sets of k-bits/samples data chunks. For every set

of k-bits, an encoder generates a time coded pulse, whereby sending N pulses for M-bits. Each of these coded pulses, which represent k-bits of data by its time position within the intra sample time, is transmitted within the same time space. Thus N such pulses will occupy the intra sample duration. The first k-bit representative pulse will be positioned in the normal forward manner. The second k-bit pulse will be however be positioned on the conjugate pulse location within the same space.

Thus, the “modulator” of claim 1 is the “data splitter” in FIG. 3 and the “encoder” of claim 1 is the “forward time position converter” and the “conjugate time position converter.” Also, the description in paragraph 51 of the specification of the CPPM demodulator in FIG. 6 indicates that the “data stream combiner” of FIG. 3 is the demodulator of claim 1.

The Office Action also states:

Regarding claim 18, claim 18 recites wherein the means recombines the forward and conjugate pulses into the desired digital output does not correspond to the disclosure of the present invention of Figure 3. According to the present invention, the desired digital output is the output of the receiver circuit of Figure 3. However, the means recites in claim 11 is used in the transmitter circuit of Figure 3 for transmitting mass quantities of digital data through a data transmission.

In response, claim 18 amended to claim the component in FIG. 3 between the “transmission channel” and the “forward time position converter” and the “conjugate time position converter.”

Rejection of claims 1-20 under 35 U.S.C. 112 second paragraph

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The Office Action states:

In claim 1 (line 10), claim 2 (lines 1-2), claim 3 (lines 1-2), claim 5 (lines 2-3), claim 7 (line 2), claim 8 (lines 8-11), claim 10 (lines 1-2), claim 11 (line 12), claim 13 (lines 1-2), claim 14 (line 2), claim 15 (line 2), claim 16 (lines 2-3), claim 18 (lines 2-3) and claim 20 (line 2), the phrases “the data bits/samples”, “the forward and conjugate pulses”, “the input digital data bits/samples”, “the encoded signal”, “the pulsed data”, “the data”, “the desired digital output”, “the received data”, and “the digital input signal” all lack antecedent basis.

In response, claims 1 and 11 are amended to resolve the lack of antecedent basis for “data bits/samples.” The amendment is supported by paragraph 11 -12.

In response, claims 2, 7 and 10 are amended to resolve the lack of antecedent basis for “the forward and conjugate pulses” which appears to be a typographical error.

In response, claims 3 and 14 are amended to resolve the lack of antecedent basis for “the input digital data bits/samples” by deleting “input digital.”

In response, claim 5 is amended to resolve the lack of antecedent basis for “the encoded signal” by amending “the” to “an.”

In response, claims 7, 8 and 18 are amended to delete “desired.”

In response, claims 8 and 16 are amended to replace “pulsed data” with “forward and conjugate pulse positions.”

Rejection of claim 8 and 10 under 35 U.S.C. 103(a)

Claim 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mohan et al. (WO 021096052, hereinafter “Mohan”) in view of Hartmann et al. (U.S. Publication No. 20030145036, hereinafter “Hartmann”).

Claim 8 is amended to include the matter of allowable claim 9 “wherein a thin pulse is used for forward pulse position coding and a relatively thicker pulse is used for conjugate pulse position coding.” Thus, claim 8 is allowable. Claim 9 is amended to delete the former

matter and include matter that is supported by FIG. 3. The amendment is not an admission of the correctness of the rejection.

### CONCLUSION

Applicant believes this reply is fully responsive to all outstanding issues and places the application in condition for allowance. If this belief is incorrect, or other issues arise, the examiner is encouraged to contact the undersigned at the telephone number listed below.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Michael G. Smith", is written over a horizontal line.

Dated: 21 January 2008

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